Mechelectiv

VOL. 13 MAY 1954 NO. 6

SCHOOL OF ENGINEERING
THE GEORGE WASHINGTON UNIVERSITY

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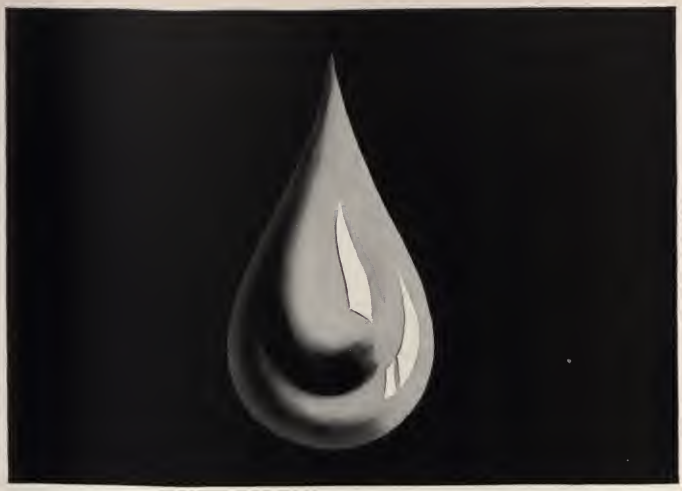

MOLECULE MAGIC . . .

This tiny drop of oil, say the chemists, contains hydrocarbons—the raw material for hundreds of thousands of organic chemicals . . . the makings for tires and textiles, for dyes, detergents and deodorants, for paints, plastics and polishes, for agricultural and industrial chemicals.

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HEADQUARTERS FOR TECHNICAL AND BUSINESS INFORMATION

MAY 1954

Foreground: Boeing RB-47E, world's fastest day-or-night long-range reconnaissance plane. *Background:* Standard B-47E six-jet bomber.

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JOHN C. SANDERS, Staff Engineer — Personnel
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BOEING

THE MECHELECIV

MECHELECIV

VOL. 13 May 1954 No. 6

SCHOOL OF ENGINEERING, THE GEORGE WASHINGTON UNIVERSITY

IN THIS ISSUE

ON OUR COVER

Some would be Mechanical Engineers are preparing to start a test on a refrigeration unit under the watchful eyes of Profs. Trumbell and Greeley. The unit may either be hand driven or motor driven and is suitable for either demonstration or test purposes.

PHOTO BY STAN VEST

FRONTISPIECE

The only information we have available on this striking photograph is that it is an Army Blimp Hanger illuminated with Mercury Vapor Lamps.

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Parting Shot

On June 9, 1954, close to fifty engineering students will receive their undergraduate degrees, climaxing four, or in many cases, much more than four years of study. Many of us have griped at one time or another about evening classes and voiced their opinion, often not complimentary, about city colleges in general and George Washington in particular. Most of these many should consider how many engineering students would be graduating this term if it were not for a school like our University which enables the employed and the ones not financially abundant to pursue their college education or a part-time and evening basis. By looking through the Cherry Tree one can see that the number of engineering graduates might well be halved were it not for the University being cognizant of the needs of those who must seek full time employment and of those who must provide a living for themselves and perhaps others while attending college.

There are many persons today who would not have the benefit of a college education were it not for some universities which realize that education is not only for those who can financially afford to pursue it on a full-time basis, but for all who desire to learn and have the capability for doing so.

These many people who have received the benefit of universities such as ours . . . If they had not attended college would their standard of living and income be what it is? Very possible, but not very probably. Remember the foregoing next time you start to bite the hand which feeds you.

The George Washington University offers to its members many opportunities to participate in extracurricular activities. Strange as it may seem these activities are not closed to part-time and/or engineering students. Participation in campus organizations is almost as much a part of a college education as classroom work. You can broaden your personality, make new friends, and very possibly gain experience that will be of value to you later in life, through participation in extracurricular activities. Although the engineer is much more limited in time than students in the other schools he would be wise to consider participation in extracurricular activities.

Mechelecіv Reports On

The New Engineering Building

In the very near future the long awaited announcement of the breaking of ground for the new engineering building, Tompkins Hall, will be made. This event has been long awaited by the students and undoubtedly the alumni. The Editors of the MECHELECIV had hoped to present to the readers a complete story on the layout of the building and the story behind the building in this our May issue. Unfortunately a few details are undecided upon and for the sake of accuracy a detailed account of the new Tompkins Hall cannot be given at this time. One of our early fall issues will carry the story that your present Board of Editors had hoped to present to you. However, permission was granted to publish a general description of the appearance of the building and what the engineering student may expect in the way of classrooms and laboratories.

As everyone probably knows the site of Tompkins Hall will be the northeast corner of twenty-third and G streets, facing on twenty-third street. The exterior facing will be of Indiana limestone similar to Monroe Hall, The Hall of Government, and Lisner Auditorium. All exposed brickwork will be light tan in color.

When completed, Tompkins Hall will be a handsome building with four flpors above ground and two floors below. The basement, which will be only partially excavated, will house the boiler room, Materials Laboratory, and Heat and Power Laboratory.

The boiler room and heat and power laboratory will be almost one. All heating and air conditioning equipment will be available for testing by the budding Mechanical Engineers. The building will be completely air conditioned. This is rather revolutionary in a school building.

The students will be happily surprised to find that almost all of their engineering courses will meet under one roof instead of being scattered as is now the case. The new building will contain sixteen laboratories including the drafting room plus three graduate laboratories, twelve classrooms including two audio-visual lecture rooms, eleven offices, a conference room, and such special rooms as a dark room, a moisture room, a calorimetry room, and surveying equipment room.

Among the sixteen laboratories are some which do not exist at the George Washington University at the present time. The sixteen laboratories including drawing room are:

Materials Laboratory
Heat and Power Laboratory
Concrete Laboratory
Fluid Mechanics Laboratory
Electrical Engineering Power Laboratory
Communications Laboratory
Ultra High Frequency Laboratory
Electrical Engineering Instrumentation Laboratory
Mechanical Engineering Instrumentation Laboratory
Heating, Ventilating, Air Conditioning and Refrigeraton Laboratory
Stress Analysis Laboratory

(Please turn to page 18)

The Turbo-Encabulator

(Editor's note: This article reprinted from the Industrial Bulletin of Arthur D. Littell, Inc. For nearly 14 years, the MECHELECIV has endeavored to interpret and print scientific information in terms that the undergraduate can understand. The contribution below, however, is of such basic significance to the process of scientific thought, as well as to the world's industrial progress, that, in spite of its precise terminology, we have decided to present the article for the benefit of those engineers who can fully appreciate it. The author of this paper, for only too obvious reasons, preferred to remain anonymous.)

For a number of years now, work has been proceeding in order to bring perfection to the crudely conceived idea of a machine that would not only supply inverse reactive current for use in unilateral phase detractors, but would also be capable of automatically synchronizing cardinal grammeters. Such a machine is the "Turbo-Encabulator." Basically, the only new principle involved is that instead of power being generated by the relative motion of conductors and fluxes, it is produced by the modial interaction of magneto-reluctance and capacitive directance.

The original machine had a base-plate of prefabulated amulite, surmounted by a malleable logarithmic casing in such a way that the two spurving bearings were in a direct line with the pentametric fan. The latter consisted simply of six hydrocoptic marzelvanes, so fitted to the ambifacient lunar wane-shaft that side fumbling was effectively prevented. The main winding was of the normal lotus-o-delta type placed in panendermic semi-boloid slots in the stator, every seventh conductor being connected by a non-reversible tremie pipe to the differential girdle-spring on the "up" end of the grammeters.

Forty-one manestically spaced grouting brushes were arranged to feed into the rotor slip-stream a mixture of high X-value phenylhydrobenzamine and 5 per cent reminative tetryliodohexamine. The heats of these liquids have specific pericosities given by

$$P=2.5C\ \frac{P-7}{n}$$

where n is the diathetical evolute of retrograde temperature phase disposition, and C is Cholmondeley's annual grillage coefficient. Initially, n was measured with the aid of a metapolar refractive pilfrometer (for a description of this ingenious instrument, see L. E. Rumpelverstein in "Zeitschrift für Elektrotechnistatischs-Donnerblitze," vol. vii), but up to the present date nothing has been found to equal the transcendental hopper dadoscope. (See "Proceedings of the Peruvian Academy of Skato-logical Sciences," June, 1914.)

Electrical engineers will appreciate the difficulty of nubing together a regurgitative purwell and a supramitive wennel-sprocket. Indeed, this proved to be a stumbling block to further development until, in 1942, it was found that the use of anhydrous nangling pins enabled a krytonastic bolling shim to be coupled to the tankoid.

Early attempts to construct a sufficeintly robust spiral decommutator failed largely because of a lack of appreciation of the large quasi-piestic stresses in the garvin studs; the latter were specially designed to hold the roffit bars to the spar-shaft. When, however, it was discovered that wending could be prevented by a simple addition to the reeving sockets, almost perfect running was secured.

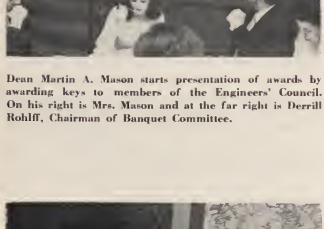
The operating point is maintained as near as possible to the n.f. rem peak by constantly fromaging the bitumogenous spandrels. This is a distinct advance on the standard nivelsheave in that no dram-cock oil is required after the phase detractors have remissed .

Undoubtedly, the turbo-encabulator has now reached a very high level of technical development. It has been successfully used for operating nofer trunnions. In addition, whenever a barescent skor motion is required, it may be employed in conjunction with a drawn reciprocating dingle arm to reduce sinusoidal depleneration.

AT THE ENGINEERS

PHOTOS BY

Dean Martin A. Mason starts presentation of awards by awarding keys to members of the Engineers' Council. On his right is Mrs. Mason and at the far right is Derrill Rohlff, Chairman of Banquet Committee.



Mr. Reubon Leatherwood, President of the Engineering Alumni Association, presents awards for outstanding srholarship to Herb Rosen, Joe Pendergat, Tex Guinan and Bernie Kilday.

Each year the Engineering School holds a banquet and ball in order that awards may be presented to deserving students, that numerous people may stand and make speeches, and that the hard working engineering students and faculty members may have an enjoyable social evening.

This year's festivities, held on May 1 at Hotel 2400, proved a huge success at satisfying all these requirements and the 150 people who attended it all had a great time.

After the remains of the steak dinners were cleared from the banquet tables, Herb Rosen, President of the Engineer's Council, welcomed the assemblage and introduced Dean Mason, faculty members, and members of the Engineer's Council.

Engineer's Council Keys were awarded by Dean Mason to Herb Rosen, Barry Boyce, Leon King, William Weidemeyer, William Harris, Robert Montgomery, V. Hobbs, James Colangelo, Walter Cornell, Phillip Martin, Robert Mitchell, T. McLaurin, Brent Quinn, Felix Costanzo, George Bierman, and George Wagner. These men all contributed considerable time promoting engineering school functions and richly deserve the honor given them.

Professor Ames presented Mecheleciv keys to Robert Montgomery, editor; Leon King; Robert van Sickler; C. F. Mohl; Sam Mawhood; D. Rohlfs; H. Gullen; K. Parks; William Stamper; M. Brady; Jose Mores; R. Spitalney; Sam Servidio; and Harry Brandler. Professor Ames then presented Mecheleciv keys to faculty members Benjamin Cruickshanks and William Turner. However, the list was incompletely read and Herb Rosen had to intervene to announce that the board of editors of the Mecheleciv had also awarded a key to Professor Ames. Professor Ames is really one professor who goes all out in encouraging engineering students to participate in various activities.

Clair Kenndy, President of the Student Branch of IRE, presented awards to the win-

BANQUET AND BALL

STAN VEST

ners of the IRE quiz contest, Bill Yates and Joe March. Herb Rosen also ran. William Harris, President AIEE, presented Paul Douglas with an award for outstanding service to the student branch. Professor Greeley presented a certificate to C. F. Mohl for outstanding service to the Student Branch of the A.S.M.E.

The coverted Sigma Tau Prize, a medal, was presented by Al Parks, President of Sigma Tau, to Peter Hui. This award is given annually to the freshman who maintains the highest scholastic standing in the School of Engineering.

The Theta Tau Activities Plaque, which is awarded by the Gamma Beta Chapter of Theta Tau Fraternity annually to the member of the senior class who has the most outstanding record in activities in the School of Engineering, went to Robert Montgomery. Although this ward is sponored by Theta Tau, the selection is made by the Dean's Council.

Mr. Reuben Leatherwood, President Engineering Alumni Association, presented Alumni scholarship awards to the outstanding graduate in each engineering curriculum. Bernard Kilday of the Electrical Engineers, Joseph Pendergast of the Mechanical Engineers, Warren Guinan of the Civil Engineers, and Herb Rosen of the B. S. in Engineering group were the four men selected as the most outstanding in their respective departments.

After the presentations, the waiters cleared the tables from the center of the floor, the band ventured its first tune, and the ball went into full swing. Included in the program were many dance specials such as the Bunny Hop, Mexican Hat Dance, Paul Jones, and the English World War II favorite, the Okey Pokey.

This year's banquet and ball is now history, but next year it should be bigger and better than ever. No engineering student should ever be too busy to attend this one big function that embraces the entire school of engineering. Do yourself a favor, attend next year's banquet and ball.

Herb Rosen, President of the Engineers' Council, makes an announcement while Paul Kuzio shows more interest in the photographer.

Everyone seems to enjoy themselves dancing. The man with the big grin is Tom Flanagan.

NEWS & VIEWS

ENGINEERING PRIZE AVAILABLE

The Washington Society of Engineers offers each year a young engineer's prize, consisting of forty dollars in cash and membership in the Society for a two-year period. It is available to members of the Society not over thirty years of age and to students of the engineering universities in the Washington Area.

Each candidate for this award must submit a paper, prepared by himself, on an engineering subject to be reviewed by the Committee of Awards for the Society. The person submitting the best paper will receive the award at the annual dinner of the Society, sometime in November.

Two years ago a GW student won this award. It can be done again. Get out your prosem. papers or English II reports, or write one over the summer on your pet subject. Submit the paper to Ernest J. Stocking, Chairman of Awards Committee, The Washington Society of Engineers, Washington, D. C.

A. S. M. E. ELECTS OFFICERS

The American Society of Mechanical Engineers held their last meeting of the school year Wednesday, May 5 and elected their officers to lead the chapter next year.

Those elected were George Bierman, Chairman; Henry Paris, Vice-chairman; Victor Yurow, Secretary; James Moy, Treasurer; and Bob van Sickler, Engineering Council Representative.

Professor Ben Cruickshanks was unanimously reelected Honorary Chairman.

Also at the meeting, former Branch members Dick Neirman and Virgil Pence, now members of the Downtown Branch, presented Robert Van Kleek the Downtown Branch award for his paper on Engineering Education which he presented there last month. The award, in the form of a plaque, will be hung in a suitable place in the Davis-Hodgkins House.

WHERE IS IT?

A pleasant sight this semester was the razing of the famous "Building X" to make way for the new engineering school building, Tompkins Hall. Maybe next semester students will have the opportunity to see the construction of the new building, now long overdue. As soon as the final plans and details are available, MECHELECIV will publish them for its readers.

THETA TAU GREETS VAWTER

The Gamma Beta Chapter of Theta Tau played host to their Grand Regent, Jamison Vawter, Wednesday May 19. A banquet was held in his honor at the Faculty Club at which time he presented an interesting talk on the future of Theta Tau.

In the meeting that followed the chapter planned the summer luncheon schedule and discussed possible meeting places for the innovation. Also, the annual summer picnic was planned at the meeting. The chapter pays tribute to those brothers who graduated at the picnic and also has the opportunity to meet more prospective members.

THE BIG CONSTRUCTION JOB IN ALL-U-FOLLIES

It was nine-thirty, April 30. The Lisner Auditorium house lights dimmed, and the School of Engineering presented its skit in the All-University Follies.

The All-U Follies, for many years in the past, had been an annual competition between the four classes in the University, freshman, sophomore, and so on. Each class presented a twelve minute humorous skit on some phase of University life. When the student body changed the basis of student organization from the classes to the schools two years ago, the competition was also changed to an inter-school event.

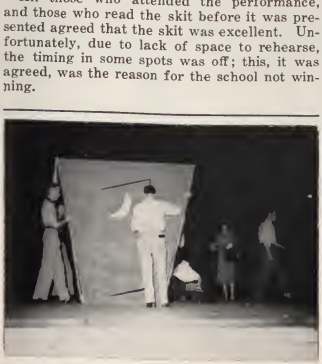
Last year the Engineering School did not enter the Follies, so the writers of this year's skit had little experience in the event to draw upon. Nevertheless, the Engineer's Council began work on the skit early in the semester and selected Derrill Rohlfs as director.

The purpose of the skit was to depict the construction of a "much needed building" on campus, where each degree candidate has an opportunity to practice his specialized knowledge in each of the three phases, surveying, planning, and the actual construction.

Derrill, Sam Mawhood, Harry Brandler, and Bob van Sickler collectively planned and wrote the skit with many additional ideas coming from other students. Other students, including Bill Weidemeyer, Tom Flanagan, Leon King, Kingsley Brown, Bill Stamper, Mike Brady, Carl McCall, and the star, Miffie ..... presented the masterpiece. Two other players were imported from another school because of their specialized talents—Gwenn Potts and Janice Lear. (Their talent—being female.)

Although, through some oversight the skit did not take the top honors, it proved very successful in binding the students who participated closer together. This was graphically demonstrated at Brownley's after the show.

All those who attended the performance, and those who read the skit before it was presented agreed that the skit was excellent. Unfortunately, due to lack of space to rehearse, the timing in some spots was off; this, it was agreed, was the reason for the school not winning.



The big engineering project in the All U Follies.

The plot of the skit went something like this: Narrator Sam Mawhood described while the actors deomnstrated how an accurate survey of the property should be made. Unfortunately for the C. E.'s who were doing this job, they were distracted somewhat from their work by two beauties who happened to pass along. In the second scene some more C. E.'s were planning the job with some elaborate blueprints that were a bit unusual, to say the least. Finally, the construction team enters, ready for the actual work. The ideal foreman, in the person of la femme Miffie, enters the scene and things begin to move. The pre-fab building of suspicious design (half-moon and all) begins to take shape as the M. E.'s and double-E's cooperate in this monstrous venture. Upon completion, the person logically selected to test the structure (a B. S.) enters just about the time that the E. E.'s throw the main switch, turning on the power. Something, unfortunately, is wrong with the circuit and the building collapses in a big flash and the B. S. is caught with his phone book down.

If the All-U Follies are held next year, the School should definitely enter again, for with the experience gained last month, there should be no difficulty in winning.

TWO ENGINEERS TAPPED O. D. K.

Two engineers, John Dodge and Bob van Sickler, were recently tapped to Omicron Delta Kappa, Honorary Leadership Fraternity. A few weeks later they were initiated in a ceremony at the Kennedy-Warren.

Both students are members of Theta Tau and Sigma Tau. John is a senior EE student who achieved distinction because of his high national rating as a leading sailing skipper, and was elected to Who's Who in American Colleges and Unversities last fall. Bob was Managing Editor of MECHELECIV this year and worked for the CHERRY TREE as Engineering School and ROTC Editor.

NOTICE TO ENGINEERS' COUNCIL

During your important summer planning meetings, MECHELECIV hopes you will consider entering a homecoming float in the Homecoming Contest next fall. With a little planning this summer and a little effort this fall, the Engineering School should have no difficulty in takng first place in the competition and adding a trophy to the Davis-Hodgkins House.

Under the present set-up three first place cups are awarded. One for the best Fraternity float, one for the best sorority float and one for the best independent float. The School would enter in the third category. Last year the other organizations entered in this division were the Sailing Club and the Newman Club.

If the engneers can't build a better float than these other organizations, they had better turn in their slide rules. This is a sure thing. Don't let t pass by.

ASCE ELECTS

The ASCE Student Chapter of this University met on May 5 to elect Officers for the coming 1954-1955 scholastic year. At that time also, the Student Prize Paper Competition was held.

(Please turn to page 18)

OUR 1954 GRADUATES

The MECHELECIV Takes Pleasure In Presenting The
SCHOOL OF ENGINEERING GRADUATES
for the 1953 - 54 School Year
Good Fortune To You All In The Years To Come.

FIRST ROW:

Bernard Leo Kilday, Jr., Arlington, Va.; B.E.E. Electrical Engineering; Phi Eta Sigma; Sigma Tau; Theta Tau; A.S.M.E.; I.R.E., Treasurer.

Robert Allen Klasse, Silver Spring, Md.; B.E.E. Electrical Engineering; Sigma Tau; I.R.E.

Frank J. Lipovsky, Washington, D. C.; B.C.E. Civil Engineering; A.S.C.E., Secretary.

Alfred O. Luning, Newport News, Va.; B.M.E. Mechanical Engineering; Sigma Tau.

Frank J. MacDonald, Falls Church, Va.; B.E.E. Electrical Engineering.

Joseph Wolf March, Jr., Washington, D. C.; B.E.E. Electrical Engineering; Sigma Tau.

SECOND ROW:

Frank Stadden Marshall, Jr., Fairfax, Va.; B.E.E Electrical Engineering; I.R.E.

Turner S. McLaurin, Alexandria, Va.; B.E.E. Communications; Sigma Tau; Engineer's Council; Theta Tau; I.R.E.

Robert W. Mitchell, Arlington, Va.; B.S.E. Business Administration; Student Council; Engineer's Council; Mechelecіv; A.S.C.E.; A.S.M.E.; Society for the Advancement of Management; Freshman Follies, Business Manager.

Robert Hayes Mongomery, Washington, D. C.; B.E.E. Electrical Engineering; Who's Who in American Colleges and Universities; Pi Delta Epsilon, President; Student Council, School of Engneering Delegate; Engineer's Council; Sigma Chi, House Manager, Vice President; Pledge Trainer; Cherry Tree, Advertising Manager; Mechelecіv, Associate Editor, Editor; I.R.E.

James Curtis Neely, Hyattsville, Md.; B.E.E. Electrical Engineering; A.I.E.E.

Raymond V. Nolan, Arlington, Va.; B.E.E. Communications; Sigma Tau.

FIRST ROW:

David Barry Boyce, Falls Church, Va.; B.M.E. Mechanical Engineering; Engineer's Council, Vice President; Theta Tau; A.S.M.E.

David F. Brittle Jr., Washington, D. C.; B.E.E. Electrical Engineering; Sigma Tau; Mechelociv.

Calvin R. Burke, Silver Spring, Md.; B.C.E. Civil Engineering; A.S.C.E.

Arturo Y. Casanova III, Silver Spring, Md.; B.C.E. Civil Engineering; Sigma Chi.; A.S.C.E.

Manuel Cebollero, Washington, D. C.; B.M.E. Mechanical Engineering; A.S.M.E.

SECOND ROW:

James A. Colangelo, Alexandria, Va.; B.C.E. Civil Engineering; Engineer's Council, Vice President; Theta Tau, Assistant Scribe, Marshall; A.S.C.E., President.

Walter Aden Cornnell, Chevy Chase, Md.; B.C.E. Civil Engineering; Engineer's Council; Sigma Nu; Theta Tau; ASCE.

John Edmondson Dodge, Arlington, Va.; B.E.E. Electrical Engineering; Who's Who in American Colleges and Universities; Sigma Tau; Engineer's Council; Theta Tau; IRE; Sailing Association, Vice Commodore, Commodore; Sailing Team, Team Captain.

Paul M. Douglass Jr., Alexandria, Va.; B.E.E. Electrical Engineering; A.I.E.E.-I.R.E.

Paul A. Foster, Washington, D. C.; B.E.E. Electrical Engineering; A.I.E.E.

THIRD ROW:

Robert Elwood Gardner, Washington, D. C.; B.E.E. Electrical Engineering; I.R.E.; Sigma Tau.

J. William Grady, Bethesda, Md.; B.S.E. Business Administration; Newman Club.

William C. Harris, Jr., Alexandria, Va.; B.E.E. Electrical Engineering; Engineer's Counci; A.I.E.E.-I.R.E., Vce Chairman.

Charles O. Hugginson, Arlington, Va.; B.C.E. Civil Engineering; Dance Production Groups.

Edward Hobbs, Silver Spring, Md.; BE.E. Electrical Engineering; Engineer's Council; Sigma Tau.

FIRST ROW:

Kenneth L. Park, Hyattsville, Md.; B.E.E. Communications; Sigma Tau; I.R.E.

Edward Prada, Alexandria, Va.; B.E.E. Electrical Engineering; A.I.E.E.

Herbert H. Rosen, Washington, D. C.; B.S.E. Physics; Who's Who in American Colleges and Universities; Sigma Tau, Treasurer, President; Engineer's Council, President; I.R.E.

Rchard Sabella, Washington, D. C.; B.E.E. Electrical Engineering.

Paul Emil Schmid, Jr., Camp Springs, Md.; B.E.E. Electrical Engineering; Sigma Tau; A.I.E.E.-I.R.E.

SECOND ROW:

Harry E. Schwarz, Silver Spring, Md.; B.C.E. Civil Engineering; A.S.C.E.; Sigma Tau Medal.

Salvatore Servidio, Arlington, Va.; B.E.E. Electrical Engineering; Sigma Tau; Mecheleciv; A.I.E.E.-I.R.E.

Lawrence J. Simonton, Washington, D. C.; B.E.E. Electrical Engineering.

Robert E. Simpson, Westgate, Md.; B.E.E. Communications.

Hunter L. Terrett, Washington, D. C.; B.M.E. Mechanical Engineering; Sigma Tau, A.S.H.E.

THIRD ROW:

Nelson L. Van Kleeck, Washington, D. C.; B.M.E. Mechanical Engineering; Sigma Alpha Epsilon.

George W. Wagner, Hyattsville, Md.; B.E.E. Electrical Engineering; A.I.E.E.

Walter P. Witkowski, Hyattsville, Md.; B.E.E. Electrical Engineering.

Hsin Ping Wong, Washington, D. C.; B.E.E. Electrical Engineering; Sigma Tau; A.I.E.E.

William A. Yates, Jr., Arlington, Va.; B.E.E. Electrical Engineering; Sigma Tau; Engineer's Council, Secretary; I.R.E.

Compatible color television will eventually reach every TV home

The rainbow you can see in black and white!

RCA brings you compatible color TV. Lets you see color programs in black and white on the set you now own!

"When a modern and practical color television system for the home is here, RCA will have it . . ."

Echoing down through the years, these words—spoken in 1946 by David Sarnoff, Chairman of the Board of RCA—have a ring of triumph today.

Behind this great development are long years of scientific research, hard work and financial risk. RCA scientists were engaged in research basically related to *color* television as far back as the 1920's . . . even before *black-and-white* television service was introduced.

Since then RCA has spent over $25,000,000 to add the reality of color to black-and-white TV, including development of the tri-color tube.

The fruit of this great investment is the RCA all-electronic compatible color television system, *a system that provides for the telecasting of high-quality color pictures that can be received in full color on color receivers; and in black and white on the set you now own.*

RCA and NBC will invest an additional $15,000,000 during color TV's "Introductory Year"—1954—to establish this new service on a solid foundation.

RCA color sets are beginning to come off the production lines in small quantities. Although it will probably be another year before mass production is reached, the promise of compatible color television is being fulfilled.

RCA pioneered and developed compatible color television

INTRIGUING OPPORTUNITIES FOR GRADUATING ENGINEERS

You're sure to find the exact type of challenge *you* want in Engineering Development, Design, or Manufacturing at RCA. Men with Bachelor's, Master's or Doctor's degrees in EE, ME, IE or Physics are needed. *You'll find your optimum career-work* among the hundreds of products RCA produces for the home, science, industry and Government.

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World leader in radio—first in television

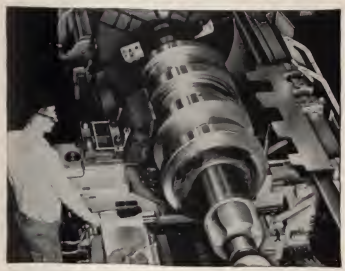
G.W. Gets Write-Up in Saturday Evening Post

The May 29th issue of the **Saturday Evening Post** carries a very interesting article entitled **"Dr. Marvin's Genius Factory."** Although very well written and highly entertaining, this article hardly pictures The George Washington University the way it appears to the G. W. student. The writer of this article, a graduate of G. W., was not very complimentary to his old school in choosing a title for his literary effort. The title and his description of the tuition, "The price tag wrapped around an A. B. or B. S. diploma would normally be $6000," seem to picture the University as a commercial institution.

The idea of the article seems to be to picture G. W. as the crossroads of the world as far as students are concerned. The author says, "In G. W.'s classrooms and along its crowded sidewalks, coeds wearing saris, kimonos and precious gems in their noses mingle with sweater girls from Kansas, gum-chewing football players and dapper continental savants." While students from foreign lands often wear their native dress, it is the exception rather than the rule which **"Dr. Marvin's Genius Factory"** indicates.

Although there are many statements in the article with which we are at variance and two were mentioned here. we do not mean to try to pick the article to pieces, but merely to point out that some obscure points have been emphasized and some of the more conventional and well known (to the students) happenings and activities omitted.

Another page for **YOUR BEARING NOTEBOOK**



How to hold a heavily-loaded lathe spindle in accurate alignment

This big lathe machines rolls for steel mills. The roll is rotated by the lathe spindle and it must be machined to very accurate dimensions. So the lathe manufacturer, LeBlond Machine Tool Company, mounts the spindle on Timken® tapered roller bearings. Despite the great weight on the spindle, the Timken bearings hold it precisely in place—because they are made so accurately and have such high load capacity.

Why TIMKEN® bearings have high load capacity

This picture shows why Timken bearings have such high capacity—the load is carried on a *full line contact* between the rollers and races in the bearing. Note also the tapered construction. This permits the bearing to be tightened up (preloaded, we call it) to prevent chatter in rotating parts like the machine tool spindle above.

TIMKEN
®TRADE-MARK REG. U. S. PAT. OFF.
TAPERED ROLLER BEARINGS

Want to learn more about bearings or job opportunities?

Some of the engineering problems you'll face after graduation will involve bearing applications. For help in learning more about bearings, write for the 270-page General Information Manual on Timken bearings. And for information about the excellent job opportunities at the Timken Company, write for a copy of "This Is Timken". The Timken Roller Bearing Company, Canton 6, Ohio.

NOT JUST A BALL ○ NOT JUST A ROLLER ⬭ THE TIMKEN TAPERED ROLLER ⬭ BEARING TAKES RADIAL ◐ AND THRUST —◐— LOADS OR ANY COMBINATION ✳

(Continued from page 11)

The following Officers were elected: President, Stuart Terrett; Vice-President, Almerigo Giraldi; Secretary, Marie Mitchell; Treasurer, S. Kervakos; Engineer Council Representatives, Paul Kuzio and Tom Flanagan.

The winners of the Student Prize Paper Contest were William Weidemeyer who spoke on "Prestressed Concrete" and Calvin R. Burke whose paper was on the "Resurfacing of Bituminous Roadways by the Heater-Planer Method."

PI DELTA EPSILON ELECTS LEON KING TREASURER

Leon King, a junior EE student, was recently elected Treasurer of Pi Delta Epsilon, honorary journalism fraternity. He was installed by outgoing president of Pi D. E. Bob Montgomery, also an EE student.

NEW MECHELECIV BOARD OF EDITORS

At the April meeting of the Engineers Council the following students were elected as the Board of Editors of MECHELECIV for next year.

Editor, Bob van Sickler
Associate Editor, Casey Mohl
Business Manager, Sam Mawhood

Professor Norman B. Ames was re-elected as Faculty Advisor to the magazine.

(Continued from page 6)

Soil Mechanics Laboratory
M. E. Design Laboratory
E. E. Design Laboratory
C. E. Design Laboratory

and in addition to these are the three graduate laboratories.

The concrete and Fluid Mechanics Laboratory will be located in the mezzanine as will be the Moist Room, Dark Room, Calorimetry Room, Surveying Equipment Room and seminar room.

Upon entering the building on the first floor, one will find the offices of the Dean of the School of Engineering and his office staff in the front of the building. At the east side of the building will be located the Electric Power Laboratory and the Communications Laboratory. Stairways are located at the ends of the building leading from the basement to the fourth floor.

The Ultra High Frequency; M. E. Instrumentation; E. E. Instrumentation; and the Heating, Ventilation, Air Conditioning and Refrgeration Laboratories are located on the west side of the building on the second floor along wtih one classroom, Across the hall on the east side will be found Stress Analysis and Fluid Mechanics laboratories and three classrooms. Two of these classrooms are to be equipped for audio-visual instruction.

There is nothing out of the ordinary on the third floor which will have seven offices on the east side and eight classrooms on the west. On the fourth floor there will be four offices, three graduate laboratories, a seminar room and C. E., E. E., and M. E. design laboratories.

So far this article has discussed only the physical layout of a building which will become a very common part of the every day life of the engineering student at the George Washington University. Not even touched upon here is the story of the careful planning and work which will make this building a reality. Nor is anything said of the man who has made it possible for this building to be constructed. Also, it should be borne in mind that this new building is another step by the officials of the George Washington University in their continued efforts to give the student more modern and better facilities in which he may pursue his education.

"Allis-Chalmers Graduate Training Course Was Just What I Needed,"

says LOWELL E. ACKMANN

University of Illinois—B.S., E.E.—1944
and now manager, Peoria, Ill., Branch Office

"MY EXPERIENCE with machinery in the Navy during the war convinced me I needed a training course. There was so much equipment on board that was a complete mystery to me that I became very 'training-course minded'.

"After investigating many training courses, the one at Allis-Chalmers looked best to me then—and still does.

"In my opinion, the variety of equipment is what makes Allis-Chalmers such a good training spot.

"No matter what industry you may be interested in, Allis-Chalmers makes important, specialized equipment for that industry. Electric power, steel, cement, paper, rock products, and flour milling industries—to name a few, are big users of A-C equipment.

"Before starting on the Allis-Chalmers Graduate Training Course, I thought I would like selling, preferably technical selling but, as is often the case, I didn't know for sure. This course, together with some personal guidance, helped me make up my mind. That, too, is an important advantage of the GTC program.

"But whether you want to be a salesman or designer, production engineer, or research engineer, Allis-Chalmers, with its wide variety of equipment and jobs, is an ideal place to get off to a good start—without wasting time."

Facts You Should Know About the Allis-Chalmers Graduate Training Course

1. It's well established, having been started in 1904. A large percentage of the management group are graduates of the course.

2. The course offers a maximum of 24 months' training. Length and type of training is individually planned.

3. The graduate engineer may choose the kind of work he wants to do: design, engineering, research, production, sales, erection, service, etc.

4. He may choose the kind of power, processing, specialized equipment or industrial apparatus with which he will work, such as: steam or hydraulic, turbo-generators, circuit breakers, unit substations, transformers, motors, control pumps, kilns, coolers, rod and ball mills, crushers, vibrating screens, rectifiers, induction and dielectric heaters, grain mills, sifters, etc.

5. He will have individual attention and guidance in working out his training program.

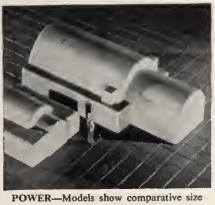
6. The program has as its objective the right job for the right man. As he gets experience in different training locations he can alter his course of training to match changing interests.

For information watch for the Allis-Chalmers representative visiting your campus, or call an Allis-Chalmers district office, or write Graduate Training Section, Allis-Chalmers, Milwaukee 1, Wisconsin.

ALLIS-CHALMERS

C-5676

PROCESSING—Allis-Chalmers built solvent extraction plant processes one hundred tons of rice bran per day at oil processing plant in Texas.



POWER—Models show comparative size of generators having the same rating with and without super-charged hydrogen cooling. Allis-Chalmers is first to supply super-charged hydrogen cooling.

Twenty-Third Psalm to an Engineer's Sweetheart

Verily I say unto you, marry not an engineer for the engineer is a strange being and possessed of many devils.

Yea, he speaketh eternally in parables which he calleth formulae

And he wieldeth a big stick which he calleth a slide rule and he hath but one Bible—a handbook.

He talketh always of stresses and strains and without end of thermodynamics.

He showeth always a serious aspect and seemeth not to know how to smile.

And he picketh his seat in the car by the springs thereof and not by the damsel beside him.

Neither doth he know a waterfall except by its power, nor a damsel, except by her specific heat.

Always he carrieth his books with him and he entertaineth his maiden wth steam tables.

Verily though she expecteth chocolates when he calleth, she opens the package to disclose samples of iron ore.

Yet, though he holdeth his damsel's hand but only to measure the friction, and he kisses only to test the viscosity.

For in his eyes shineth a faraway look which is neither love nor longing, but a vain attempt to recall a formula.

There is but one key dear to his heart, and that is a Tau Beta Pi key, and one love letter for which he yearneth, a "C",

And when to his damself he writeth of love and signeth with x's, mistake not these symbols for kisses, but for unknown quantities.

When a boy he pulleth a girl's hair to test the elasticity, but as a man he discovers different devices,

For he would count the vibrations of her heart beat and he reckoneth her strength of materials.

For he seeketh ever to pursue the scientific investigation, even his heart flutterings he counteth as a vision of beauty and he inscribeth his passion in a formula.

And his marriage is a simultaneous equation, involving two unknowns and yielding diverse answers.

PHOTOGRAPHY AT WORK—No. 7 in a Kodak Series

Photography reads the meters *2500 an hour!*

Dial a call—an accurate register counts it—then each month photography records the total, precisely right, ready for correct billing.

TWENTY-FOUR hours a day, hundreds of thousands of dial phones click their demands in many central exchanges of the New York Telephone Company.

Little meters keep careful tally of the calls. Then the night before each bill is dated, photography reads the up-to-the-minute totals in a fraction of the time it could be done in any other way. Here is an idea that offers businesses everywhere simplification in copying readings on meters, dials or other recording instrumentation.

Photography fits this task especially well for two reasons. It is lightning fast. It can't make a mistake.

This is another example of the ways photography saves time, cuts costs, reduces error, improves output. In large businesses—small businesses—photography can do big jobs. In fact, today so many new applications of photography exist that graduates in the physical sciences and in engineering find them valuable tools in their new occupations. Other graduates—together with returning servicemen—have been led to find positions with the Eastman Kodak Company.

If you are interested, write to Business and Technical Personnel Dept., Eastman Kodak Company, Rochester 4, N. Y.

Eastman Kodak Company
Rochester 4, N. Y.

At New York Telephone Company exchanges a unique camera records the dial message register readings—up to 25 at a clip—saving countless man-hours of labor, assuring utmost accuracy and at the same time providing a permanent record.

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Few companies can offer as broad a range of career opportunities as General Electric. Whether a young man is interested in science or engineering, physics or chemistry, electronics or atomic energy, plastics or air conditioning, finance or sales, employee relations or advertising, marketing or metallurgy —he can find a satisfying, rewarding career.

The development programs shown here are "open doorways" that lead to highly successful careers in a Company where big and important jobs are being done, and where young people of vision and courage are needed to help do them.

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